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High-performance Computing (HPC) Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027

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Abstracts

The global high-performance computing (HPC) market reached a value of US$ 38.06 Billion in 2021. Looking forward, IMARC Group expects the market to reach a value of US$ 52.71 Billion by 2027, exhibiting a CAGR of 5.40% during 2022-2027. Keeping in mind the uncertainties of COVID-19, we are continuously tracking and evaluating the direct as well as the indirect influence of the pandemic on different end use industries. These insights are included in the report as a major market contributor.

High-performance computing, or HPC, is a practice to aggregate computing power that performs parallel processing for running advanced application programs efficiently, reliably, and quickly. HPC systems involve numerous servers and microservers for smooth operation while being well-suited for applications that require intensive performance data computation. It is designed to provide improved analytics, faster product development cycles, modeling, simulating, and analyzing data. HPC delivers high-performance capabilities to help find solutions for complex applications, including high-frequency trading, genomics-based personalized medicine, autonomous vehicles, computer-aided design, deep learning, speech and facial recognition, pattern recognition, seismic exploration, computational fluid dynamics, and seismic tomography.

High-performance Computing (HPC) Market Trends:
The market is primarily driven by the augmenting product demand across multiple end-use industries, such as finance, medical, research, and government and defense, for faster data processing with high accuracy. In line with this, the increasing utilization of computed tomography (CT) scanning and magnetic resonance imaging (MRI) in the healthcare sector that require quick and accurate results from the processing of

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complex algorithms is leading to the widespread adoption of HPC across the globe. Moreover, the growing inclination of enterprises toward cloud service providers (CSPs) that offer turn-key HPC solutions tailored to the specific workload needs is providing lucrative growth opportunities for key players in the HPC market. The market is further driven by rapid automation across various sectors and the rising adoption of the internet of things (IoT), artificial intelligence (AI) and machine learning (ML) for multiple processes on the global level. Additionally, considerable growth in the information technology (IT) industry, extensive research and development (R&D) activities conducted by major players, and the advent of industry 4.0 are also creating a positive outlook for the market.

Key Market Segmentation:
IMARC Group provides an analysis of the key trends in each sub-segment of the global high-performance computing (HPC) market, along with forecasts at the global, regional and country level from 2022-2027. Our report has categorized the market based on component, deployment type and end use.

Breakup by Component:

Hardware
Software and Services

Breakup by Deployment Type:

On-premises
Cloud-based

Breakup by End Use:

Aerospace and Defense
Energy and Utilities
BFSI
Media and Entertainment
Manufacturing
Life Science and Healthcare
Others

Breakup by Region:

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North America
United States
Canada
Asia-Pacific
China
Japan
India
South Korea
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
Latin America
Brazil
Mexico
Others
Middle East and Africa

Competitive Landscape:
The competitive landscape of the industry has also been examined along with the profiles of the key players being Advanced Micro Devices Inc., Atos SE, Cisco Systems Inc., Dell Technologies Inc., Fujitsu Limited, Hewlett Packard Enterprise Development LP, Intel Corporation, International Business Machines Corporation, Lenovo Group Limited, Microsoft Corporation, NetApp Inc. and Nvidia Corporation.
Key Questions Answered in This Report:
How has the global high-performance computing (HPC) market performed so far and how will it perform in the coming years?
What has been the impact of COVID-19 on the global high-performance computing (HPC) market?
What are the key regional markets?
What is the breakup of the market based on the component?
What is the breakup of the market based on the deployment type?

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What is the breakup of the market based on the end use?
What are the various stages in the value chain of the industry?
What are the key driving factors and challenges in the industry?
What is the structure of the global high-performance computing (HPC) market and who are the key players?
What is the degree of competition in the industry?

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